Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Revision of the Commission's Rules	)	
To Ensure Compatibility with	)	CC Docket No. 94-102
Enhanced 911 Emergency Calling Systems	)	RM-8143
	)	

SPRINT PCS COMMENTS

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Summary

The Commission asks in its NPRM whether there exists a technically feasible and cost effective network solution to support a call back capability to non-initialized mobile handsets. No such solution exists or can be developed, as Sprint's two major switch vendors, Lucent and Nortel, confirm. *See* Exhibits 1 and 2. The fundamental problem is that mobile telecommunications networks are designed to route calls to handsets with valid telephone numbers, and non-initialized handsets do not have valid telephone numbers. Importantly, call back capabilities are available to the 110 million Americans who subscribe to mobile service, as they use handsets containing valid telephone numbers.

The Commission expresses concern for "at risk" persons who receive mobile handsets through donor programs. Sprint PCS provides activated (or "service initialized") handsets in the donor programs it supports — a practice followed in most donation programs. Since it appears that the vast majority of handsets in donation programs are activated, the concern raised in the NPRM has already been addressed, and any network solution — which would be both time-consuming and costly (even assuming a solution could be developed) — would be unnecessary for these handsets.

The Commission also expresses concern for people choosing to purchase 911-only phones that do not contain a call back capability because such phones are incapable of receiving any incoming calls. 911-only phones are not inexpensive. *See* www.mobile911.com/all_about/product.asp. Requiring that these phones be capable of receiving calls from public safety would only increase the price, thereby making such phones even less attractive. In addition, it is not apparent why service providers should have a responsibility to engage in extensive modifications to accommodate people that

choose voluntarily to purchase a phone that is incapable of using the vast array of available mobile services. Requiring that 911-only phones have a call back capability would also entail the assignment of valid telephone numbers to such phones. Sprint PCS submits that this would not constitute an efficient use of scarce numbering resources, especially given the infrequency in which call back would be used with such phones.

The choices available today are the same choices that have always been available: (1) forward all 911 calls without validation (including those from non-initialized handsets where call back capabilities are not available), or (2) forward only those 911 calls where call back capabilities are available (calls from service-initialized handsets). The Commission determined four years ago that the public interest was served by requiring carriers to deliver all 911 calls, including those from non-initialized phones, where call back capabilities are not available. Sprint PCS believes that the Commission made the right choice. However, given the experience now gained with wireless E911 services, public safety could legitimately decide that they wish to receive E911 calls only from the 110 million Americans subscribing to mobile service, plus the thousands of persons who receive donated phones that are service initialized.

Finally, there is one point upon which all parties should agree. Carrier efforts to deploy Phase I E911 service and to implement Phase II E911 service should not be diverted. Implementation of Phase I and II E911 services will bring enormous and tangible benefits to the millions of Americans who use their mobile service on a daily basis. These important implementation efforts should not be diverted by having industry pursue elusive and costly solutions to an undocumented problem.

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Sprint Spectrum L.P., d/b/a Sprint PCS ("Sprint PCS), submits these comments in response to the Further Notice of Proposed Rulemaking ("NPRM") addressing the subject of E911 "call back" capabilities for wireless 911 calls from "non-service initialized" handsets ("non-initialized handsets").[1]

I. HISTORY OF THE CALL BACK ISSUE

Often lost in the discussion involving E911 service is that there have been many areas where industry and the public safety community have agreed. The circumstances under which a PSAP may call back a wireless 911 caller is one such area of agreement. In this instance, problems have arisen because the Commission chose a path different from the joint recommendations of the interested parties.

Specifically, as part of the historic 1996 Consensus Agreement between industry and the public safety community (APCO, NENA, and NASNA), the parties agreed that call back capabilities with initialized handsets (customers and authorized roamers) should

[1] *See Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems,* CC Docket No. 94-102, *Further Notice of Proposed Rulemaking,* FCC 01-175 (May 25, 2001), *summarized in,* 66 Fed. Reg. 31878 (June 13, 2001)("*Call Back NPRM*").

be provided earlier than what the Commission had proposed, but that 911 access should *not* be available to non-customers, largely because of the absence of call back capabilities from non-initialized handsets.[2] Public safety acknowledged at the time that there were "practical limitations" to the provision of call back with non-initialized handsets, and it "accept[ed] those limitations."[3] Under this Consensus Agreement, the current call back issue would have never arisen.

Notwithstanding this joint recommendation, the Commission decided to broaden the universe of 911 calls forwarded to PSAPs in two respects. First, it directed CMRS carriers to forward all 911 calls made from handsets capable of transmitting "code identification."[4] This ruling would have required CMRS providers to forward 911 calls originated not only by customers and authorized roamers, but also by unauthorized roamers. Second, the Commission decided that carriers should forward 911 calls made by all other non-customers if a particular PSAP requested receipt of such calls.[5] The Commission left the decision to each PSAP because it recognized that there were "significant drawbacks" in forwarding such calls, "including the fact that ANI and call back features may not be usable, and hoax and false alarm calls may be facilitated."[6] The Commission did seek additional comment on whether it should require carriers to deliver 911 calls from all non-

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[2] *See* Joint Public Safety Consensus Agreement Ex Parte, Docket No. 94-102 (Feb. 13, 1996).

[3] *See* Joint Public Safety Comments, Docket No. 94-102, at 36 (Jan. 9, 1995). *See also* Joint Experts Meeting Report, TIA, APCO, NSANA, NENA, PCIA (Aug. 1994) ("911 service would be available to any handset that is service initialized.").

[4] *See E911 First Order,* 11 FCC Rcd 18676, 18693-94 ¶¶ 32-35 (1996). The FCC defined "code identification" handset as "a mobile unit which has a Mobile Identification Number." *Id.* at 18683 n.12.

[5] *See id.* at 18695 ¶ 37.

[6] *Id.* at 18696 ¶ 38.

initialized handsets — even in cases where PSAPs did not want to receive such calls because of the lack of call back capabilities.[7]

The CMRS industry sought reconsideration, pointing out that the two new requirements— code identification and PSAP-by-PSAP choice — were not technically feasible. The public safety community did not disagree with these recommendations, but it did oppose any proposal whereby PSAPs would be required to accept 911 calls from non-initialized phones notwithstanding their preferences.[8]

Industry and public safety representatives once again met and again were able to reach consensus. The parties agreed that the Commission should eliminate the distinction based on "code identification," defer PSAP-by-PSAP choice, and permit PSAPs in a region to determine collectively whether they want to receive 911 calls from non-initialized handsets even though a call back capability is not available.[9] The parties further asked the Commission to "refrain from making any decisions" regarding the status of uninitialized phones until they had the opportunity to study the matter "in depth" so that the Commission would have "sufficient information to make a decision."[10]

On reconsideration, the Commission agreed that its two new requirements were "unworkable" and would impose "substantial" costs.[11] However, rather than defer imposing new non-initialized handset obligations as the parties had requested, the Commission required CMRS carriers to forward all 911 calls from all handsets, whether or not initial-

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[7] *See id.* at 18748 ¶ 149.

[8] *See* Joint Public Safety Comments, Docket No. 94-102, at 7 (Sept. 25, 1996); TX-CSEC Reply Comments, Docket No. 94-102, 3 (Oct. 25, 1996) (proposing that decision be made by individual state legislatures).

[9] *See* Joint Public Safety/CTIA Letter, 12 FCC Rcd 15334 (Sept. 25, 1997).

[10] *Id.* at 15337.

ized.[12] In imposing this requirement, the Commission recognized that carriers were unable to support call back capabilities for calls from non-initialized handsets.[13] The Commission did ask the parties to study the feasibility of providing a call back capability with non-initialized handsets.[14]

Public safety and industry promptly formed the Wireless E 9-1-1 Implementation Ad Hoc Group ("WEIAD") to study the issues that had been referred and to report back to the Commission. At the outset, the parties agreed that any solution to the new condition created by the Commission's order — the absence of call back capabilities with non-initialized phones — should be "proportional" to the frequency of the problem:

> It has been generally agreed that the most appropriate and efficient solutions for expanding call back capabilities for wireless-originated calls should correspond with the dimensions of the problem – i.e., the proportional rate for those situations where PSAPs were unable to contact callers who have placed a 9-1-1 call over a wireless network.[15]

The WEIAD, including the public safety representatives, agreed that "if the percentage of situations where there is no call-back capability is already low (possibly under 2%), there may be little or no justification for further actions. Alternatively, if the estimated percentage is substantially higher, additional efforts to expeditiously identify and implement practical solutions may be warranted."[16] At the time, it was "estimated that call back was only

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[11] *See First E911 Reconsideration Order,* 12 FCC Rcd 22665, 22680-81 ¶¶ 28 and 30 (1997).

[12] *See id.* at 22682 ¶ 33.

[13] *See id.* at 22717-18 ¶¶ 108-09.

[14] *See id.* at 22718-19 ¶ 110.

[15] Report of CTIA, PCIA, APCO, NENA, NASNA, Alliance, Docket No. 94-102, at 16-17 (Jan. 30, 1998).

[16] *Id.*

used one half of one percent of the time and NENA, APCO & NASNA did not believe that the cost of implementing call back justified the benefits."[17]

The WEIAD recommended that the PSAPs "scope" the size of the issue, that is, identify the percentage of 911 calls originated from non-initialized handsets and the percentage of these calls requiring use of a call back capability.[18] The next year, in February 1999, the parties advised the Commission that the technical impediments to call back to non-initialized handsets have "not yet been overcome."[19]

In April 2000, the public safety community asked the Commission "to update the record on [call back] technical solutions that may be possible in the near future."[20] But in making this request, the public safety agencies did not identify any technical developments since their recognition only a year earlier that technical impediments have "not yet been overcome." In addition, no new facts have been presented that would justify further action and change the recommendations of the WEIAD noted above. Specifically, Sprint PCS is aware of no new facts that have been presented on the size of the problem.

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[17] Wireless Consumer Alliance Comments, Docket No. 94-102, at 2 (June 19, 2000).

[18] *See* Report of CTIA, PCIA, APCO, NENA, NASNA, Alliance, Docket No. 94-102, at 16-17 (Jan. 30, 1998).

[19] Report of CTIA, PCIA, APCO. NENA, NASA, Alliance, Docket No. 94-102, at 7 (Feb. 1, 1999). To Sprint PCS' knowledge, the facts identified by WEIAD had identified that the public safety representatives agreed to obtain have never been collected.

[20] Joint APCO, NENA, NSANA and TX-CSEC Letter, Docket No. 940-102, at 3 (April 28, 1998).

II. NO CHANGED CIRCUMSTANCES HAVE BEEN IDENTIFIED, INCLUDING WHETHER A "CALL BACK PROBLEM" EXISTS

The public safety agencies have asked that the call back issue be revisited because of the growth of donation programs and a concern that donated handsets may be creating a quantity of handsets that PSAPs may be unable to call back.[21] In fact, it appears that most donation programs are using handsets with valid call back numbers. Sprint PCS participates in donation programs across the country, and in almost every case it provides a handset with a valid call back number.

Sprint PCS currently supports three national programs: Call to Protect, Education Connection, and Phone Call for Safety. Call to Protect is a program that provides refurbished handsets to domestic violence shelters nationwide. The Education Connection provides handsets used by teachers, parents and students. The Phone Call for Safety program provides handsets and service to law enforcement organizations or school safety partners, with the goal of making schools and neighborhoods safer. In all of these programs, Sprint PCS provides activated handsets with valid call back telephone numbers.

Sprint PCS believes that most national programs also require activation with a unique dialable telephone number.[22] The wireless industry anticipated that these handsets should have the capability of being called back by the PSAP and established guidelines requiring activation. Callers to 911 using handsets from these national donation programs are already capable of receiving call back from PSAPs without the extensive network modifications necessary for non-initialized call back.

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[21] *See* Texas 9-1-1 Agencies, the National Emergency Number Association, the Association of Public-Safety Officials, and the National Association of State Nine-One-One Administrators letter dated April 28, 2000 ("Public Safety Entities Letter").

[22] *See, e.g.,* CTIA Comments, Docket 94-102, at 9 (June 19, 2000).

The Commission has long recognized that new government regulations applicable to the CMRS industry should "not be imposed unless clearly warranted" — that is, there exists a problem, government intervention would fix the problem, *and* the benefits of the regulation would exceed the costs.[23] Similarly, the public safety community acknowledged that a cost-benefit analysis must be undertaken with respect to the call back issue, when it agreed that any solution should be "proportional" to the scope of the "problem."[24]

In this instance, there is no evidence that a "call back problem" even exists. Since it appears that most donation programs use activated handsets, the beneficiaries of a change in the call back requirements would be handsets that were stolen, cloned, or abandoned. There is no evidence that this group of handsets is creating a call back problem. Without access to such basic facts, the Commission cannot ascertain whether government intervention is appropriate and, if so, what particular government solution will best address the problem identified.

In summary, the Commission cannot act without first ascertaining whether a problem exists and, if so, how extensive such a problem may be. Without such facts, the Commission cannot determine whether government intervention is necessary or appropriate and, if so, whether a cost-effective solution to the problem exists.

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[23] *First CMRS Interconnection Order,* 11 FCC Rcd 18455, 18463 ¶ 14 (1996). *See also Automatic Roaming NPRM,* 15 FCC Rcd 21628 ¶ 21 (2000) ("To the extent the record evidence establishes the existence of a problem that [a new] rule could remedy, we then must weigh the potential benefits of regulation against its costs.").

[24] *See* Report of CTIA, PCIA, APCO, NENA, NASNA, Alliance, Docket No. 94-102, at 16-17 (Jan. 30, 1998).

III. EVEN ASSUMING A CALL BACK PROBLEM, NETWORK CHANGES ARE NOT COST EFFECTIVE SOLUTIONS

The public safety community has asked the Commission to "update the record on [call back] technical solutions that may be possible *in the near future*."[25] The answer to that question is already available. As public safety recognized only two years ago, the technical impediments to providing call back capabilities with non-initialized handsets have "not yet been overcome."[26] Mobile telecommunications networks are designed to route calls to handsets with valid telephone numbers, and non-initialized handsets do not have valid numbers. Thus, major changes would need to be made to the call completion process in order to support call back to non-initialized handsets.[27]

The technical challenges posed by non-initialized phones have not changed. One of Sprint PCS' switch vendors, Lucent Technologies, states that the "development of a callback feature would be costly and entail significant development time."[28] Sprint PCS' other major switch vendor, Nortel Networks, has reached the same conclusion:

> Nortel Networks is of the opinion that a requirement to assign a call back number to out-of-service handsets in circulation today would require a major network re-design, would likely cost Nortel Networks millions of dollars in design efforts, take years of standards redefinition and design, and would

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[25] Joint APCO, NENA, NSANA and TX-CSEC Letter, Docket No. 940-102, at 3 (April 28, 1998)(emphasis added).

[26] Report of CTIA, PCIA, APCO. NENA, NASA, Alliance, Docket No. 94-102, at 7 (Feb. 1, 1999).

[27] The matter becomes even more complex when the mobile identification number ("MIN") is separated from the mobile directory number ("MDN") so that number pooling can be implemented. With wireless pooling, the MIN may no longer be the same has the MDN, and home location registers will need to be capable of performing a three-way association (between the MIN, the MDN and the ESN) instead of the current association between only the MIN and the ESN.

[28] Letter from Chris Fernandez, Lucent Product Manager, to Jim Propst, Sprint PCS E911 Implementation Manager (July 5, 2001), *attached as* Exhibit 1.

> potentially result in a solution that would not work, especially for current handsets.[29]

In fact, Nortel states that the network redesign would be "so great that no proposed solution should be seriously considered without the FCC, in concert with interested parties, undertaking a very complete end-to-end (handset to PSAP) review of the scope and potential costs of the network redesign problem."[30]

The Commission has requested comment on two "technical solutions" that have been proposed: (a) use of pseudo numbers or Mobile Identification Numbers ("MINs") that would be uniquely assigned to each non-initialized handset, and (b) a variation on the use of Temporary Local Directory Numbers ("TLDNs"), presently used with roamers. These "technical solutions" are not feasible.[31]

A. MINs or "Pseudo Numbers." The assignment of valid telephone numbers, or MINs, to non-initialized handsets is not a solution. We have a numbering crisis in this country, and the Commission, state regulators, and industry are expending enormous resources to improve the efficiency in which numbers are used. Assigning valid telephone numbers to an entirely new class of phones, non-initialized handsets, makes no sense and would waste scarce telephone numbers. The Commission would be assigning numbers to phones that may never be used (and that may actually be thrown away). Even if the phone

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[29] Letter from Doug Wolff, Nortel Vice President – CDMA Wireless Networks, to Jim Propst, Sprint PCS E911 Implementation Manager (July 6, 20010, *attached as* Exhibit 2.

[30] *Id.*

[31] In addition to the significant technical obstacles posed by the proposed solutions, another issue that must be addressed is the ability to send a call to a non-initialized handset. Since these handsets are not active, the switch is not capable of communicating with them and sending a call to them. These handsets cannot be called by any party, and the network is not designed to allow special calls (e.g. from PSAPs) to go through. Any feasible solution would require that the network be substantially modified to allow calls to non-subscribers.

is used to make a 911 call, available evidence suggests that the likelihood of a need for call back (the reason a telephone number would be assigned to the phone) would be very small. It is unlikely that this proposal would provide any solution for the handsets currently in existence.

The Commission is fully justified in expressing "concern" that assigning MINs to every handset manufactured (including phones no longer used for service), would "exacerbate the scarcity of numbering resources."[32] Sprint PCS estimates that the total quantity of numbers needed by the CMRS industry would conservatively double if a separate MIN is assigned to each handset manufactured. Over time, there would be more numbers assigned to non-initialized handsets than numbers assigned to handsets in service.[33]

The "pseudo number" alternative, which has never been adequately described but apparently would involve use of numbers not within the North American Number Plan, is presumably designed to eliminate the possibility that a call back solution will negatively impact numbering resources. But networks are not designed to route calls based on "pseudo numbers," and massive changes to carrier call routing processes, both wireless and landline, would be required to add a pseudo number routing capability. Industry standards would have to be developed to ensure the continued interoperability of networks, and switch and other network element vendors would thereafter need time to develop a solution implementing the standards within their uniquely designed equipment. The Commission would need to establish an administrator of the pseudo numbers used in non-initialized

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[32] *Call Back NPRM* at ¶ 12.

[33] In addition, the MIN proposal would require that carriers dramatically increase the size of their home location registers ("HLRs"), which are the repository for telephone numbers assigned to a carrier. HLRs are "sized" to accommodate the number of customers. If every handset in existence needed its own number, the HLR would need to be doubled or tripled in capacity simply for the huge quantity of numbers assigned to non-initialized handsets.

handsets, and someone must thereafter assume responsibility for collecting all non-initialized handsets so they can be re-programmed with an unique pseudo number.[34] Moreover, handsets already in the market would never be re-programmed so they would not have the unique pseudo number.

B. TLDNs. The Temporary Location Directory Number ("TLDN") mechanism used with roaming is also not a solution. First, this limited TLDN system works because the temporary number is tied, or keyed, to a handset with a valid MIN and equipment serial number ("ESN"); as noted, non-initialized handsets do not have this valid MIN/ESN association because 911 calls are not validated. Even if this major hurdle could be overcome, the fact is that TLDN is used for call *delivery*, *not* call *back*.[35] Non-initialized handsets are not capable of receiving calls because they are not active customers. Even roamers are active customers of some carrier.

Additionally, temporary numbers exist for several seconds only, or just enough time for the call to connect. The TLDN is then returned back to the carrier's pool of TLDNs to be reassigned. Even if the validation and call back capability issues could be resolved (which would take years of development), any solution would increase the risk of

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[34] Proponents of a "pseudo number" approach do not identify what entity would assume this collection and re-programming function, nor do they discuss what should be done with people who refuse to bring in their old handset for re-programming.

[35] When a customer is roaming, a call to the customer is first delivered to the customer's home mobile switch. That switch ascertains the customer's current location by querying the home location register, which identifies the distant switch currently serving the roaming customer. The home switch forwards an IS-41 message to the visited switch to advise that an incoming call will be coming, after which the visited switch returns a TLDN so the home switch can forward the call attempt to the visited switch for completion. The analogy would be that a PSAP is the equivalent to the visited switch. Even assuming that a PSAP could act like a visited switch (*e.g.,* it has equipment capable of handling IS-41 messages), this arrangement would, at most, deliver a TLDN to the PSAP. Current TLDN capabilities have no mechanism where the same TLDN is used for call back (*e.g.,* the visit switch returns the call attempt to the home system using the same TLDN).

fraud and would likely drive "crank calls" to the PSAP. Consequently, it is not possible to modify existing TLDN capabilities to support call back to non-initialized phones.

Several conclusions can be drawn from the foregoing discussion. First, even assuming a technical network solution could be developed to allow call back to non-initialized handsets (and no such workable solution has yet been suggested), the solution could not be implemented for years because of the need to identify a solution and the need to thereafter develop industry standards (in order to maintain network inter-operability).

Second, given that any solution would entail major changes to the call termination process, the costs of implementing the solution would necessarily be substantial. The costs would be at least as large that those needed to implement the code identification and PSAP choice alternatives that the Commission eventually determined were unworkable and not cost justified.[36]

Third, any solution that might be pursued would necessarily require carriers to validate E911 call attempts, because carriers would need to segregate service-initialized handsets from non-initialized handsets, so special processing could be added for the latter call attempts. However, the Commission has previously concluded that "user validation requirements harm the public interest because, by necessarily delaying call process, they inhibit users' ability to make 911 calls in a timely manner."[37]

And, it bears repeating, even this limited TLDN roaming capability works *only* because the roamer, unlike a person with a non-initialized handset, has a valid MIN and ESN.

[36] *See First E911 Reconsideration Order,* 12 FCC Rcd at 22681 ¶¶ 29-30. The Commission has requested information on the projected costs associated with implementing a solution to the call back issue. It is simply impossible to provide any reasonable estimate of costs until a viable solution is determined and the standards are developed. No manufacturer or vendor is able to estimate costs for solutions that have not yet been determined.

[37] *First E911 Order,* 11 FCC Rcd at 18692-93 ¶ 31.

Finally, even if industry incurred the time and expense of pursing a network solution of some type, there would remain an unspecified number of handsets in the market where call back still will not work, because the handset in question is incapable of receiving any calls, including those from PSAPs.[38]

In summary, there is no technical network solution that could be implemented in the near future. If a longer term solution exists (and none has been identified), it would takes years to develop at substantial cost. There is no evidence suggesting that these large costs could be justified given the circumstances involving non-initialized phones and the infrequent use of call-back capabilities.

IV. THE PUBLIC INTEREST IS SERVED BY FOCUSING EFFORTS ON IMPLEMENTING PHASES I AND II FOR THE 110 MILLION CMRS CUSTOMERS RATHER THAN PURSUING POSSIBLE SOLUTIONS FOR AN UNDETERMINED PROBLEM

Over 110 million Americans are customers of mobile service today. The CMRS industry is currently working with PSAPs in the deployment of Phase I E911 service. Industry is also currently allocating considerable resources implementing Phase II E911 service. Phase II in particular will be challenging for both carriers and PSAPs alike, and as the experience with Phase I confirms, there will be numerous issues that the Commission will need to address before Phase II will be successfully implemented.

The widespread deployment of Phase I and Phase II will bring enormous public safety benefits to millions of mobile customers. Given this environment, Sprint PCS submits that it would be a mistake for the Commission at this time to require industry to divert its efforts from enhanced 911 service in pursuit of a possible solution to an undemonstrated

[38] *See Call Back NPRM* at ¶ 13,

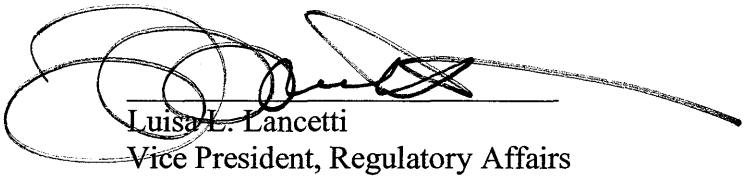
problem. At a minimum, the Commission should defer further consideration of the call back issue until Phase II implementation is well underway.

V. CONCLUSION

There is no evidence at this time that the lack of call back capabilities to non-initialized handsets poses a problem. There is certainly no factual record presented that would justify the enormous costs entailed in modifying wireless networks in an attempt to provide this capability. Sprint PCS' preference would be to maintain the *status quo*, whereby all 911 calls are forwarded to PSAPs. However, if the public safety agencies believe that the absence of call back is a major problem, the only cost-effective solution is to begin validating E911 call attempts and forward only those calls from service-initialized handsets. As noted above, such a change should not impact most persons using donated phones, since most of these phones are already service-initialized.

Respectfully submitted,

Sprint Spectrum L.P., d/b/a Sprint PCS



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July 9, 2001

Exhibit 1

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July 05, 2001

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Dear Jim:

This letter responds to your request to summarize the challenges faced in developing and implementing a solution to support a call back capability for mobile handsets that are not service initialized.

Lucent Technologies is familiar with the call back issue, having participated in industry forums and having monitored FCC proceedings on the subject. While Lucent has not specifically dedicated resources in an attempt to identify a feature that would support call back capabilities from non-initialized handsets, we believe that significant development activities and resources would be required.

At a minimum, the following technical issues must be addressed:

1. How to provide and track a unique mobile station identity (MSID or MIN) for each non-subscriber mobile unit;
2. If temporary local directory numbers (TLDN) are utilized, how to prevent pool exhaust and how to handle inter-system roaming with TLDN callback;
3. How to minimize directory or telephone number exhaust;
4. How to solve the potential dangling MSIDs/mobile directory numbers (MDN) problem for unsubscribed mobiles that are lost or destroyed.

While TIA TR45 J-Std-036 (E911 Phase II) has discussed the call back feature, the standards body has not reached any formal decisions or outcomes on these and other issues.

Lucent believes development of a callback feature would be costly and entail significant development time. Lucent cannot provide an estimate of these costs, because no current solution or standard exists. While it is impossible to ascertain the exact costs and development schedules, we are confident that the time and expense of this effort would be substantial.

Feel free to contact me if you have any questions regarding the foregoing.

Sincerely,

Chris Fernandez

Chris Fernandez

Exhibit 2

NORTEL NETWORKS

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Re: FCC NPRM CC Docket No. 94-102, RM-8143, proposed rule to provide call back numbers to out-of-service handsets that make calls to 911

Dear Jim:

This letter is in response to your request for a network manufacturer's perspective on the 911 call back issue for Sprints CDMA networks.

A feature that would allow a PSAP to call back an out-of-service handset does Nortel Networks is of the opinion that a requirement to assign a call back number to out-of-service handsets in circulation today would require a major network redesign, likely cost Nortel Networks millions of dollars in design efforts, take years of standards redefinition and design, and potentially result in a solution that would not work, especially for current handsets.

Networks are carefully designed to only support "registered" handsets, where the Visitor Location Register ("VLR") and/or the Home Location Register ("HLR") contain information about the handset that supports identifying workable call back information. Out-of-service handset call back information is removed from system memory for obvious fraud, network memory consumption, and telephone number reassignment reasons.

Nortel Networks does not believe it is possible with current network and handset design to provide either permanent or temporary 911 call back numbers to out-of-service handsets. Nortel Networks believes the consequences of a network re-design are so great that no proposed solution should be seriously considered without the FCC, in concert with interested parties, undertaking a very complete end-to-end (handset to PSAP) review of the scope and potential costs of the network redesign problem.

Solutions that involve either "permanent" or "temporary" numbers pose significant problems. A permanent number solution would put increasing quantities of numbers in network memory, likely exceed network memory capacity, speed telephone number exhaust, open the door to fraud and likely require handset re-programming (if possible).

A temporary number solution (e.g. assignment of a Temporary Local Dialing Number or TLDN) would 1) require the network to store a pool of dialable numbers, 2) require a re-design of the network to check for temporary number need (requiring all 911 calls to be checked for validation), 3) aggravate number

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exhaust (while less than the "permanent" solution aggravation), 4) open the door for fraud, and 5) likely require handset re-programming (if possible). At present outgoing emergency calls from mobile handsets are not authenticated or validated. They are sent to the appropriate PSAP without checking for a valid subscriber entry in either the HLR or VLR. In the case of a non-subscribed mobile handset, registration does not occur within the network and thus even if a TLDN were created there would be no valid subscriber entry to recognize the TLDN.

Additionally, calls to non-subscribed mobile handsets cannot be delivered because there is no subscriber entry. As it stands today, there is no method to place a call to a mobile handset without a subscription. The network is not currently designed to allow a call to be placed to an out-of-service handset.

Current FCC rules provide that a carrier transmit a 911 call to a PSAP without validation. The current rule would need to be reversed for a network to assign a temporary call back number to out-of service units. Years of standards and design work would likely be needed. By the time tested solutions would be ready to work many operating systems would have replaced older systems.

There are no standards in place for CDMA networks to build a solution as broad in scope as described in the NPRM. Standardized solutions are needed to support 911 callers roaming between networks, or within a home network using different vendor equipment. Nortel Networks would estimate it would take substantial time to develop CDMA standards for a full solution, and even then it would not likely work for many legacy handsets in circulation. Nortel Networks cannot provide an estimate of the cost to a carrier to provide 911 call back to out-of-service handsets due to the extreme amount of development effort that would be required.

Appreciable design resources within Nortel Networks continue to focus on currently mandated regulatory requirements. Most other 911 "solutions" in progress have not yielded the performance, nor ease of development, other developers had projected. The critical needs of the general population is better served by other FCC 911 mandates than by call back from out-of-service handsets which, as noted above, would require the redesign of existing 911 systems.
Finally, Nortel Networks notes that the CTIA Call to Protect program does provide reprogrammed handsets to needy individuals. The CTIA program fills some of the call back need, but does so using existing network design. The FCC proposal would require substantial network redesign and are unnecessary for these types of programs.

Regards,
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How the world shares ideas.